

CLAIMS:

1. A process for converting a hydrocarbon feedstock to provide an effluent containing light olefins, the process comprising passing a hydrocarbon feedstock, the feedstock containing at least one C₁ to C₆ aliphatic hetero compound selected from alcohols, ethers, carbonyl compounds and mixtures thereof and steam in an amount whereby the feedstock contains up to 80 weight % steam, through a reactor containing a crystalline silicate catalyst to produce an effluent including propylene, the crystalline silicate having been subjected to de-alumination by a steaming step and being selected from at least one of an MFI -type crystalline silicate having a silicon/aluminium atomic ratio of from 250 to 500 and an MEL-type crystalline silicate having a silicon/aluminium atomic ratio of from 150 to 800.
2. A process according to claim 1 wherein the MFI -type crystalline silicate catalyst comprises silicalite.
3. A process according to claim 1 or claim 2 wherein the hydrocarbon feedstock contains at least one of methanol, ethanol, dimethyl ether, diethyl ether and mixtures thereof.
4. A process according to any foregoing claim wherein the hydrocarbon feedstock is passed over the crystalline silicate at a reactor inlet temperature of from 350 to 650 °C.
5. A process according to claim 4 wherein the hydrocarbon feedstock is passed over the crystalline silicate at a reactor inlet temperature of from 450 to 550 °C.
6. A process according to any foregoing claim wherein the hydrocarbon feedstock is passed over the crystalline silicate at a WHSV of from 0.5 to 30 h⁻¹, the WHSV being based on the weight of the at least one C₁ to C₆ aliphatic hetero compound in the feedstock.
7. A process according to any foregoing claim wherein the partial pressure of the at least one C₁ to C₆ aliphatic hetero compound in the feedstock when passed over the crystalline silicate is from 20 to 400 kPa.

8. Use, in a process for converting a methanol feedstock in a reactor having a reactor inlet temperature of from 450 to 550 °C into an effluent containing propylene, of a crystalline silicate catalyst which has been de-aluminated by steaming thereby to have a silicon-aluminium atomic ratio of from 250 to 500 for increasing the propylene/ethylene ratio in the effluent.
9. Use, in a process for converting a methanol feedstock in a reactor having a reactor inlet temperature of from 450 to 550 °C into an effluent containing propylene, of a crystalline silicate catalyst which has been de-aluminated by steaming thereby to have a silicon-aluminium atomic ratio of from 250 to 500, for increasing the propylene/propane ratio in the effluent.
10. Use, in a process for converting a methanol feedstock in a reactor having a reactor inlet temperature of from 450 to 550 °C into an effluent containing propylene, of a crystalline silicate catalyst which has been de-aluminated by steaming thereby to have a silicon-aluminium atomic ratio of from 250 to 500, for enhancing the stability of the catalyst over time.